# BUREAU OF ENVIRONMENT
## CONFERENCE REPORT

**SUBJECT:** NHDOT Monthly Natural Resource Agency Coordination Meeting
**DATE OF CONFERENCE:** October 16, 2013
**LOCATION OF CONFERENCE**: John O. Morton Building
**ATTENDED BY:**

**NHDOT**
Christine Perron
Ron Crickard
Matt Urban
Mark Hemmerlein
Jon Evans
Mike Dugas
Ron Grandmaison
Jon Hebert
Jason Tremblay
Michael Hazlett
Victoria Chase
Margarete Baldwin
Joe Patusky

**NH Natural Heritage Bureau**
Melissa Coppola

**NH Fish & Game**
Carol Henderson

**NHDES Wetlands Bureau**
Gino Infascelli
Lori Sommer

**Hoyle, Tanner & Associates**
Sean James

**Normandeau Associates**
Jameson Paine

**Faye, Spofford & Thorndike**
David McNamara
John Stockton

*(When viewing these minutes online, click on an attendee to send an e-mail)*

**PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH:**
*(minutes on subsequent pages)*



*(When viewing these minutes online, click on a project to zoom to the minutes for that project)*

## NOTES ON CONFERENCE:

### Finalization of September Meeting Minutes

The September 18, 2013 meeting minutes were finalized.

### Dummer-Cambridge-Errol, X-A001(231), 16304

Ron Grandmaison provided an overview of the project. The project involves the rehabilitation of portions of NH Route 16 between NH Route 110A and NH Route 26. Currently, five segments along a 10-mile section of NH 16 have been identified as priorities through coordination with NHDOT Maintenance District 1. The Department will be evaluating potential environmental impacts for each segment and will determine what can be designed and constructed with the limited funding that is available. The intent, where possible, is to move the roadway away from the river. There have been two areas of slope failure in the recent past and to avoid additional problems in the future, the road should be shifted away from the river in some locations. Mike Dugas added that the Department may also consider sandwich pavement treatment along portions of the project.

R. Grandmaison noted that he met with Errol town officials earlier this year to discuss the project and its proximity to Thirteen Mile Woods. Christine Perron added that three of the five priority segments are located adjacent to Thirteen Mile Woods (segments 1, 3, and 4), and that the town, LCHIP, and DRED all hold an interest in this conservation land. In addition, DES owns the Pontook Lease along segment 2, and is also listed as owner of a parcel near segment 5.

Each priority segment will be addressed individually and given its own project number (such as 16304A). C. Perron explained that the Federal Highway Administration considered each priority segment to have independent utility, meaning that improvements to any one segment would provide a benefit and are not dependent on improvements at any other segment. The Department anticipates addressing environmental impacts for each individual segment rather than the five segments together. As a segment is developed into its own project, the Department will review that project at a future coordination meeting.

Carol Henderson asked for a copy of the project location map in order to coordinate with fisheries biologists on potential concerns with the Androscoggin River. She noted that attempting to move the roadway away from the Androscoggin River was preferable, if possible.

Matt Urban asked if pavement would be removed in any area where the roadway is realigned. R. Grandmaison expected that pavement would be removed.

Melissa Coppola commented that there are Natural Heritage Bureau records in the vicinity of the project and that additional coordination will be necessary once the project progresses.

*This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.*

### Lebanon, X-A000(141), 13951

Maggie Baldwin provided an overview of the project area. The proposed project consists of replacing the bridge that carries US Route 4 over the Mascoma River (Br. No. 188/126), near the intersection of NH Route 4A in Lebanon, NH. The current bridge has 6 spans, and 5 piers, one of which has a pier located within the channel of the river. The new bridge will be a 435-foot, three span, steel beam girder bridge. The length has been reduced from 462 feet to 435 feet to allow for the construction of a smaller, three span

structure, eliminating the need for an additional pier within the river. The bridge will be constructed with 12-foot travel lanes, 4-foot shoulders and 5-foot sidewalks on both the northbound and southbound sides. The proposed bridge will be placed approximately 50 feet to the east of the existing structure. Once the new bridge has been constructed, traffic will be moved onto the new structure and the existing bridge will be removed.

M. Baldwin indicated that some of the wetland delineations and impact areas were still being fine-tuned, but that the impacts were anticipated to be approximately as follows:

- Total Permanent: 23,000 s.f.
- Total Temporary: 33,510 s.f.
- Total: 56,150 s.f.
- Total requiring mitigation (not including permanent ditch impacts): 19,500 s.f.

M. Baldwin reviewed the areas of proposed embankment stabilization. She indicated that the majority of the proposed embankment stabilization within the project area is located adjacent to the proposed bridge abutments, but are located behind the top-of-bank and therefore are not located within jurisdictional bank areas. She also noted that there are several large washout areas along the embankment between US Route 4 and Mill Road associated with several drainage pipe outlets. In order to stabilize these washout areas the Department is proposing to place stone, as well as separate the roadway drainage from the water running off the hillside to the east of US Route 4.

Jon Evans indicated that the Department anticipates submitting both the wetland and shoreland permit applications shortly, but wanted to provide a review of the project and wetland impacts prior to submitting the applications. He noted that as was discussed at the November 19, 2008 Resource Agency Coordination Meeting, the Department still intends to provide mitigation through the Aquatic Resource Mitigation (ARM) Fund. He noted that a recent ARM fund calculation indicated a payment of approximately $76,000 would be necessary.

Matt Urban commented that the Department is also evaluating the areas of proposed embankment stabilization to fine tune the extent of any jurisdictional impacts requiring mitigation. Any additional mitigation will be included in the Department's ARM fund mitigation proposal.

J. Evans noted that the ARM fund mitigation proposal was discussed at the December 8, 2008 public hearing, and the Department believes that it has satisfied the local Conservation Commission coordination requirements of Env-Wt 803.07, as was agreed to at the November 19, 2008 meeting. Lori Sommer agreed that this was still acceptable and that no further coordination with the Conservation Commission regarding the Department's mitigation was necessary.

Melissa Coppola asked if a recent Natural Heritage Bureau review had been completed. J. Evans said that he had recently submitted an updated search (NHB13-3071) and that the search did not indicate the presence of any rare species or exemplary natural communities, within or adjacent to the project area.

J. Evans noted that at the previous meetings the resource agencies indicated a preference towards removing the existing pier within the Mascoma River rather than leaving it in place upon removal of the rest of the existing bridge. He noted that further discussions with the Department's design and construction personnel have indicated that temporary impacts within the river could almost be completely avoided if it weren't for the removal of the existing pier within the center of the channel (with the exception of two smaller areas necessary for construction of the two new piers along the riverbanks). The pier removal will likely require the construction of a coffer dam and a temporary access causeway in order to cut the existing pier several feet below the surface of the riverbed. The Department and its contractor would implement all necessary erosion control and sedimentation measures; however, J. Evans wanted to note the inherent risks associated

with the pier removal. He asked if the resource agencies still wished to proceed with the pier removal after consideration of the anticipated additional temporary construction impacts. Carol Henderson and L. Sommer both expressed a continued preference for removal of the existing center channel bridge pier, as it is unlikely that it would ever be removed once the Department completes its efforts in this area. It was noted that at previous meetings, the Army Corps and National Marine Fisheries Service had also expressed a preference for the removal of the existing center pier.

C. Henderson noted that, due to fish spawning activity, impacts to the river should be minimized during the fall and that the best time for work within the river would be during the summer, prior to early September. G. Infascelli suggested that, since the Mascoma River is dam controlled, the Department and/or the contractor may want to coordinate with Jim Gallagher from the DES Dam Bureau to coordinate the removal of the existing pier and construction of the new piers along the banks so that these efforts could be completed during periods of controlled low-flow.

*This project was previously reviewed on the following dates: 3/21/2007, 11/19/2008.*

## Lancaster, NH-Guildhall, VT, A001(159), 16155

The purpose of this meeting was to update the group on the NHDOT'S US Route 2 Bridge Replacement Project. Sean James, of Hoyle, Tanner & Associates, Inc. (HTA), provided a brief introduction to the group. The original project scope of work was to rehabilitate the existing truss bridge (Bridge No. 111/129) that carries US Route 2 over the Connecticut River. However, since the project was last presented to the natural resource agency groups at the October 17, 2012 meeting, the project has been listed on the State's list of Red Listed bridges. Public meetings have been held where public input and concurrence has been received to replace the bridge with a new structure. The design team has developed basic roadway alignment alternatives, with a preferred alignment located to the upstream or north side of the existing bridge. Cultural resource reviews and coordination with SHPO representatives from both NH and VT have and will continue to occur.

Jameson Paine, of Normandeau Associates, Inc. (Normandeau), provided a brief overview of resource reviews that have been completed to date, as well as ongoing efforts, to assist in alternatives evaluations and to minimize impacts to resources in the area.

Normandeau staff has been on site to delineate wetlands, top of bank, ordinary high water, and invasive species locations. Small pocketed wetlands are located at the project extents, but don't appear to be within the immediate project alignment. The proposed bridge structure will require a center pier within the river. Permanent bridge abutment locations are currently expected to be beyond the delineated top of bank.

A review of the project site by the NH Natural Heritage Bureau indicates the potential presence of dwarf wedge mussels (DWM) within the Connecticut River. Coordination with Susi von Oettingen of the US Fish and Wildlife Service (USFWS) revealed that a large number of DWM was found a short distance downstream from the existing bridge location. Due to the amount of time until construction is expected to begin (Fall 2018), it is agreed that NHDOT would have a professional, licensed diver, who is experienced with mussel surveys, evaluate the presence of DWM and then coordinate with USFWS through a formal Section 7 consultation about a year prior to proposed construction.

Carol Henderson asked who owned a boat ramp located southeast of the existing bridge in NH. She also asked if utility lines would be attached to the new bridge. J. Paine responded that ownership of the boat ramp was uncertain and coordination is ongoing to determine final utility locations. Subsequent to the meeting, a review of the GRANIT online mapping tool and NH Fish & Game's boat access map indicate that the boat ramp is most likely a private boat ramp, with a facility name of Lancaster Kwik Stop.

Lori Sommer asked how the existing truss bridge would be removed. S. James indicated that removal methods still need to be discussed. As a historic structure, the bridge will be offered for sale. If an interested party comes forward to acquire the bridge, they will help direct the safe means for removal. J. Paine also noted that removal would need to take the potential presence of mussels into consideration.

*This project was previously reviewed on the following date: 10/17/2012.*

## Northfield-Tilton, X-A001(153), 16147 / Northfield-Tilton, X-A001(042), 14744A

The purpose of this meeting was to provide an initial review for the rehabilitation of both Interstate 93 (I-93) bridge decks that carry the interstate over the Winnipesaukee River in Northfield and Tilton, NH. Dave McNamara, of Fay, Spofford and Thorndike (FST) provided an overview of the project's purpose and proposed improvements under the 16147 project. The NHDOT proposes to rehabilitate the two bridges carrying Interstate 93 (I-93) north (State Bridge No. 118/158) and southbound (State Bridge No. 117/157) over the Winnipesaukee River, in the Towns of Northfield and Tilton, NH.

The subject bridges are located a few hundred feet south of the Exit 20 ramps, with merging traffic occurring on the southbound bridge. The bridges were originally constructed in 1960, and then rehabilitated in 1980 and 1998. The existing bridges have four-span continuous curved steel girders, each with total length of approximately 330 feet. The southbound bridge carries three 12 foot lanes, with 46.5 feet roadway width, and 50' – 6" overall width. The northbound bridge carries two 12 foot lanes, with 38 ft – 6 in roadway width, and 42' – 6" overall width. The median is 75' – 6" wide. This project is on the NHDOT's Priority List and the bridges were placed on the State's Red List in 2009 for "Deck Poor" and "Scour Critical".

The existing horizontal alignments and vertical profiles will be maintained for the rehabilitated bridges. The southbound bridge is wide enough for three 12-foot travel lanes, but the current roadway configuration of two striped lanes will be retained, with the widened right lane serving as a continuation of the merge for the I-93 southbound on-ramp at Exit 20. This results in a 50' - 6" overall width that provides a roadway section equivalent to three 12 ft travel lanes, two 5'-9" shoulders, and two 1'-6" brush curbs. The 42'-6" overall width of the northbound bridge will continue to carry two 12 ft travel lanes, a 5'-9" inside shoulder, a 9'-9" outside shoulder, and two 1'-6" brush curbs in the current configuration.

As the poor condition of the concrete decks of both of the I-93 bridges result in a decreased load posting to the Operating Capacity for Certified Loads and inclusion on the Red List, bridge deck replacement is warranted for both bridges. The existing bridge decks, brush curbs, and expansion joints will be replaced. The existing steel bridge bearings will be evaluated during the final design phase of the project, but it is anticipated they will be replaced with elastomeric bearings. An investigation into the need for concrete shear keys or steel keeper angles will be conducted with the bearing evaluation. The existing steel beams and substructures will remain in place. All design will be in accordance with the AASHTO Load and Resistance Factor Design (LRFD) methodology and the NHDOT *Bridge Design Manual*.

The bridge deck will consist of a cast-in-place reinforced concrete slab that will be composite with the existing weathering steel beams throughout the entire length of the bridge. The 8-in bridge deck thickness of the 1980 reconstruction will be retained to avoid an increase over the current dead load. A cast-in-place deck will be used, and precast concrete deck panels will not be allowed due to the 7.7% superelevation. The existing bridge deck scuppers will remain in place or be replaced in-kind at their current locations, depending on their condition. The need to replace the light pole deck supports will be determined during the final design phase. Should the light poles be included in the rehabilitated structures, galvanized conduit will be placed in the brush curb, similar to the current condition.

The proposed bridge will have NHDOT standard T3 steel bridge rail mounted to each brush curb. Repairs to the deteriorated areas of the reinforced concrete substructures will be included as part of the bridge rehabilitation. It is anticipated that the re-installation of the scour monitoring devices will be addressed in NHDOT Project 14744A.

Jameson Paine, of Normandeau Associates, Inc. (Normandeau), provided a brief overview of resource reviews that have been completed to date, as well as ongoing efforts, to assist in alternatives evaluations and to minimize impacts to resources in the area.

Normandeau staff has been on site to delineate wetlands, top of bank, ordinary high water, and invasive species locations. Pocketed wetlands exist along the exterior edge of the interstate corridor and within southern extent of the interstate median. The project, as proposed, is not expected to have impacts within the river.

The NH Natural Heritage Bureau review determined that no sensitive resources are located within the project area. However, the Winnipesaukee River is considered potential essential fish habitat (EFH) for Atlantic salmon. Per the direction of the National Marine Fisheries Service (NMFS), an EFH report is currently being prepared for the project site. Coordination with NMFS staff will continue through the EFH report process.

Carol Henderson commented that Lake Winnisquam (the Winnipesaukee River is the outlet) has recently been stocked with alewives, which migrate in the fall and typically move during the daytime. , The project could minimize the disturbance to outmigrating alewives by constructing the cofferdam (if necessary) in advance of the out migration and limiting it to only a portion of the river. If the activity of construction disturbs them in the daytime, fish could still bypass the cofferdam at night. Also, constructing the cofferdam in advance of the Fall spawning period should minimize impacts to Brook trout.

Joe Patusky provided an overview of the 14744A project. The project involves the installation of scour protection measures in the Winnipesaukee River at the piers of the Interstate 93 bridges that will be rehabilitated under the Northfield-Tilton 16147 project. The proposed scour countermeasure consists of precast modular "A-Jacks" concrete armor units, which the Department installed recently as part of the Littleton-Waterford 15926/16195 project in the Connecticut River. Stone riprap would be used where protection is necessary along the portion of one pier that is not located in the river. Access to the piers is challenging due to the steep slopes. Access options under consideration involve either installing the A-Jacks from the bridges when their decks are removed during rehabilitation or utilizing the railroad line that runs parallel to the river.

Gino Infascelli asked how the bedding material would be installed. J. Patusky commented that this was done from a barge in Littleton without cofferdams but construction methods have not yet been determined for this site.

G. Infascelli asked if the velocity at this site is higher than at the Connecticut River site in Littleton. J. Patusky replied that the velocity in Littleton is higher due to the dam releases just upstream from that project.

Carol Henderson asked if there was a benefit to using A-Jacks instead of stone riprap. J. Patusky said that A-Jacks hold in place better.

C. Henderson noted that Fish & Game owns a boat ramp near the project area but the water is shallow, if a barge were being considered for the installation of the A-Jacks.. The Department would need to get permission from Fish & Game to use the boat ramp during construction.

G. Infascelli asked that a shelf for wildlife passage be considered along one bank. Christine Perron replied that the Department would look into providing a shelf.

Matt Urban asked G. Infascelli if the work as proposed would be considered protection of existing infrastructure. G. Infascelli agreed that it would be considered as such.

C. Perron said that the scour project would be discussed at a future meeting to address outstanding issues and concerns.

*This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.*